

REMARKS

By this Amendment, claims 1, 10 and 16 are amended. Claims 2-9, 11-15 and 17-24 remain in the application. Thus, claims 1-24 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

In item 4 on page 3 of the Office Action, claims 1, 10 and 16 were rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. Claims 1, 10 and 16 were amended, in part, in the June 16, 2004 Amendment by substituting the terms “updated” with the terms “updated.” In item 4 on page 3 of the Office Action, the Examiner contended that the definition of the term “updated” and the definition of the term “revised” are not synonymous, and that the concept of “revised” data is not described in the specification in such a way so as to reasonably convey to one skilled in the art that the Applicant, at the time the application was filed, had possession of the claimed invention.

In view of the rejection to claims 1, 10 and 16 under 35 U.S.C. § 112, first paragraph, claims 1, 10 and 16 have each been amended in order to recite “updated” data instead of “revised” data. The Applicant submits that the concept of “updated” data is clearly supported in the specification and in the drawings in such a way so as to reasonably convey to one skilled in the art that the Applicant, at the time the application was filed, had possession of the claimed invention. Accordingly, the Applicant respectfully requests the Examiner to withdraw the rejection of claims 1, 10 and 16 under 35 U.S.C. § 112, first paragraph.

In item 1 on page 3 of the Office Action, claims 1-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Young (U.S. 4,706,121) in view of Browne et al. (PCT Publication No. WO 92/22983). In response to the amendments to claims 1, 10 and 16 and the remarks presented therefor in the June 16, 2004 Amendment, the Examiner contends that Young discloses each of the limitations of claims 1, 10 and 16 except for previously stored data being replaced by newly received data. Accordingly, the Examiner applied Browne et al., which discloses a program storage section in which older data is automatically deleted in order to free up storage capacity for new data to be written thereto (see page 19, lines 6-18).

Without intending to acquiesce to this rejection, independent claims 1, 10 and 16 have been amended in order to more clearly illustrate the marked differences between the present invention and the applied references. Accordingly, the Applicant respectfully submits that claims 1-24 are clearly patentable over Young in view of Browne et al. for the following reasons.

In conventional storage-type data receivers, it is known when an updated version of data previously stored in a data storage is supplied. Therefore, upon each instance of data being received that was previously provided at irregular intervals, the data previously stored in the data storage is overwritten with the data that is repeatedly provided at irregular intervals. Alternatively, the data that is repeatedly provided at irregular intervals is redundantly stored even though the contents thereof are the same as the contents of the data that were previously stored in the data storage. Furthermore, old and useless data is also redundantly accumulated in the data storage. As a result, the storage capacity and power of the data storage are wasted, and the life cycle of the data storage is shortened due to the frequency of unnecessary data writing.

Accordingly, an object of the present invention is to solve the above-described problems by providing a storage-type data receiver which minimizes the frequency of data writing to a data storage of the storage-type data receiver for receiving data that is repeatedly distributed from an external data source and that is updated at irregular intervals, and for storing only the latest updated data to the data storage (see line 20 on page 3 to line 14 on page 4 of the specification).

In order to solve the above-described problems of the conventional storage-type data receivers, data updating is performed by partially changing the data, but the partially changed data is deemed to be the same data as the data before the updating thereof, similar to a case of updating a book revision where an updated book is considered to be the same book even after the updating. When a book or a software application is updated, the original book or the original software application is replaced by an updated version thereof unless there are some special reasons not to update the original book or the original software application. As described in lines 5-7 on page 3 of the specification, the data updating of the present invention is described in relation to the conventional storage-type data receiver. In particular, “even if the newly-provided data is identical to the one

already in the data storage 107, the data already in the data storage 107 is overwritten with the data which is newly-provided but identical thereto.” Accordingly, where previously-stored data is replaced with data that is newly-provided but is identical thereto, although the newly-provided data differs in version from the previously-stored data, the newly-provided data is treated as the same data as the previously stored data, such as in the case where an updated book is considered to be the same book even after the book is updated. Therefore, only the latest version of the same data is kept in the data storage of the storage-type data receiver of the present invention (see, for example, line 2 on page 15 to line 22 on page 17 of the specification).

Accordingly, the present invention provides a storage-type data receiver which receives data Dd that is distributed from a data source, and next-update information Inu indicating when the data Dd is to be next updated. The next-update information Inu is a part of the data Dd being distributed by the data source.

The present invention also provides an extractor which extracts the next-update information Inu from the received data Dd. The present invention further provides a comparator which compares a current time Itc and a next-update time which is indicated by the extracted next-update information Inu so as to generate a data update time indication signal indicating whether or not it is time to update the data Dd. As described above, the next-update information Inu is a part of the data Dd being distributed by the data source. Specifically, the next-update information Inu is contained in the data Dd and is therefore distributed together with the data Dd at the same time. Furthermore, the present invention includes the above-described extractor for extracting the next-update information Inu from the received data Dd. Thus, in order for the comparator (data update detection means) to compare the current time Itc and the next-update time which is indicated by the next-update information Inu, the next-update information first needs to be extracted by the extractor.

The present invention also provides a storage controller which controls the data storage based on the data update time indication signal so as to newly receive data when the data is updated. Accordingly, data that was previously stored in the data storage is overwritten only with an updated version of the decoded data Dd, and therefore, it is possible to minimize the frequency of data writing to the data storage.

Thus, the present invention makes it possible to solve the above-described problems of the conventional storage-type data receivers, i.e., the wasting of the storage capacity and power of the data storage as well as the shortening of the life cycle of the data storage.

The present invention, as recited in amended claim 1, achieves the stated object by providing a storage-type data receiver for receiving and storing data being updated at irregular intervals and next-update information indicating when the data will be next updated, where the data is distributed by a data source, and the next-update information is a part of the data. The receiver of claim 1 comprises a reception means for receiving the data. The receiver of claim 1 also comprises an extraction means for extracting the next-update information from the data, and a storage means for storing the data. The receiver of claim 1 also comprises a data update detection means for comparing a current time and a next-update time indicated by the extracted next-update information so as to generate a data update time indication signal indicating whether or not it is time to update the data. The receiver of claim 1 also comprises a data storage control means for controlling storage of the data in the storage means based on the data update time indication signal so as to newly receive data when the data is updated, wherein data previously stored in the storage means is replaced by the newly received data.

The present invention, as recited in claim 16, also achieves the stated object by providing a storage-type data receiver for receiving and storing data which is updated at irregular intervals and next-update information indicating when the data will be next updated, where the data is distributed by a data source, and the next-update information is a part of the data. The receiver of claim 16 comprises a tuner operable to receive the data. The receiver of claim 16 also comprises an extractor operable to extract the next-update information from the data, and a data storage operable to store the data. The receiver of claim 16 also comprises a comparator operable to compare a current time and a next-update time which is indicated by the extracted next-update information so as to generate a data update time indication signal indicating whether or not it is time to update the data. Further, the receiver of claim 16 also comprises a storage controller operable to control the data storage based on the data update time indication signal so as to newly

receive data when the data is updated, wherein data previously stored in the data storage is replaced by the newly received data.

Further, the present invention, as recited in claim 10, also achieves the stated object by providing a storage-type data reception method for receiving and storing data being updated at irregular intervals and next-update information indicating when the data will be next updated, where the data is distributed by a data source, and the next-update information is a part of the data. The method of claim 10 comprises receiving the data, extracting the next-update information from the data, and storing the data. The method of claim 10 also comprises determining whether or not it is time to update the data after comparing a current time and a next-update time indicated by the extracted next-update information. Further, the method of claim 10 comprises effectuating the storing of the data based on the determination made in the determining of whether or not it is time to update the data so as to newly receive data when the data is updated, wherein data previously stored in the storing of the data is replaced by the newly received data.

Young discloses a TV schedule system and process in which a user selects broadcast programs from schedule information. The TV schedule system of Young allows a user to control a television by selecting broadcasting programs for viewing from the schedule information with user-supplied selection criteria. The schedule information of Young is itself received as a broadcast. The TV schedule system of Young thus controls a television receiver to allow for a user-selection of broadcast programs from the schedule information to control a VCR to be used for the unattended recording of the selected programs. A programmable tuner is connected to receive control signals from a data processor for causing the programmable tuner to supply broadcast signals for the user-selected programs at the time the selected program broadcasts, where the selected program can be either viewed by the user or can be unattendedly recorded by the VCR when the user is not present to watch the desired program (see Column 4, lines 48-53). The schedule information is disclosed as relating to the start time, channels, program services, encrypted programs, and scrambled transmissions.

Young also discloses that a single program is selected from among multiple programs in a series, and the rest of the non-selected programs in the series are automatically included in the series of programs to be recorded by the VCR or to be

viewed by the user (see Column 3, lines 34-38, and Column 12, lines 14-24). Further, Young discloses that the series of programs is automatically terminated when the last program of the series has been completed (see Column 3, lines 39-42).

The Examiner contends that the TV programming (see Column 7, lines 66-68) corresponds to the data of the present invention, and that the TV scheduling information (see Column 6, lines 60-64) corresponds to the next-update information of the present invention.

However, the TV scheduling information (next-update information) of Young is clearly not a part of the TV programming (data), as recited in claims 1, 10 and 16. Instead, Young clearly discloses that the TV scheduling information is received by a data processor 110 from an FM receiver 94 so as “to be broadcast independently of the television broadcasts [TV programming] themselves” (see Column 6, lines 19-28 and Figure 1). Accordingly, Young clearly does not disclose or suggest that the next-update information is a part of the data, as recited in claims 1, 10 and 16.

Furthermore, Young also clearly does not disclose or suggest that the TV scheduling information (next-update information) is extracted from the TV programming (data), as recited in claims 1, 10 and 16. Instead, Young clearly discloses, as described above, that the TV scheduling information is broadcast independently of the TV programming, and that the programmable TV tuner 132 receives control signals from the data processor 110 for causing the programmable TV tuner 132 to supply broadcast signals to the TV receiver 126 at the time the TV receiver 126 receives the TV programming (see Column 4, lines 48-52, Column 7, line 60 to Column 8, line 12).

Accordingly, Young also clearly does not disclose or suggest extraction means for extracting the next-update information from the data, as recited in claim 1, or an extractor operable to extract the next-update information from the data, as recited in claim 16. Similarly, Young also clearly does not disclose or suggest extracting the next-update information from the data, as recited in the method of claim 10.

By extension, Young also clearly does not disclose or suggest the data update detection means of claim 1, the comparator of claim 16 and the determining operation of claim 10 which each compare a current time and a next-update time which is indicated by the extracted next-update information.

Therefore, in contrast to the Examiner's assertion that Young discloses each limitation of claims 1, 10 and 16 except for replacing previously stored data with newly received data, Young clearly does not disclose or suggest that the next-update information is a part of the data, as recited in claims 1, 10 and 16, or the extraction means of claim 1, the extractor of claim 16, or the extracting operation of claim 10.

As described above, Browne et al. discloses a program storage section in which older data is automatically deleted in order to free up storage capacity for new data to be written thereto (see page 19, lines 6-18). However, similar to Young, Browne et al. also clearly does not disclose or suggest that the next-update information is a part of the data, as recited in claims 1, 10 and 16. Furthermore, Browne et al. also clearly does not disclose or suggest extracting the next-update information from the data, as recited in claims 1, 10 and 16. Moreover, Browne et al. also clearly does not disclose or suggest comparing a current time and a next-update time which is indicated by the extracted next-update information, as recited in claims 1, 10 and 16.

Accordingly, neither Young nor Browne et al. disclose or suggest each and every limitation of claims 1, 10 and 16.

Therefore, the Applicant respectfully submits that no obvious combination of Young and Brown et al. would result in the inventions of claims 1, 10 and 16 since Young and Browne et al., either individually or in combination, clearly fail to disclose or suggest each and every limitation of claims 1, 10 and 16.

Furthermore, it is submitted that the clear distinctions discussed above are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Young and Brown et al. in such as manner as to result in, or otherwise render obvious, the present invention as recited in claims 1, 10 and 16. Therefore, it is submitted that the claims 1, 10 and 16, as well as claims 2-9, 11-15 and 17-24 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

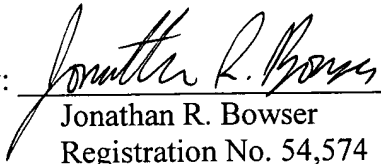
In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

A fee and a Petition for a two month Extension of Time are filed herewith pursuant to 37 CFR § 1.136(a).

Respectfully submitted,

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